

Stein et al.

S/N: 10/604,459

In the Claims

1-23. Canceled

24. (Currently Amended) A welder comprising:

a welding torch configured to present an electrode to a weld;

an enclosure defined by a base plate, a pair of side plates, a pair of end plates, and a top cover;

a power conditioner disposed within the enclosure and configured to condition raw power into a form usable in a welding process; ~~and~~

a cooling system disposed within the enclosure and designed to circulate coolant through the welding torch connected to the enclosure, the cooling system having a coolant tank disposed within the enclosure and designed to be a source of coolant that is delivered to the welding torch and dump for coolant that has been circulated to the welding torch; and

a controller configured to control the cooling system and the power conditioner.

25. (Original) The welder of claim 24 wherein the cooling system is further configured to automatically commence coolant circulation through the torch when the electrode is presented to the weld.

26. (Original) The welder of claim 25 wherein the cooling system is further configured to maintain coolant flow through the welding torch until a temperature of the welding torch falls below a temperature set point.

27. (Original) The welder of claim 25 wherein the cooling system is further configured to maintain coolant flow through the welding torch until expiration of a time period following removal of the electrode from the weld.

28. (Original) The welder of claim 24 further comprising at least one coolant hose connecting the cooling system and the welding torch.

29. (Withdrawn) ~~The welder of claim 24 further comprising a controller configured to control the cooling system and the power conditioner.~~

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30. (Previously Presented) The welder of claim 24 wherein the cooling system includes a heat exchanger and a water pump.

31. (Previously Presented) The welder of claim 30 wherein the cooling system further includes a check valve biased to prevent coolant flow when the welding torch is disconnected from the enclosure.

32. (Original) The welder of claim 24 wherein the cooling system further includes a coolant level indicator mounted to one of the end plates or one of the side plates.

33. (Previously Presented) The welder of claim 24 wherein the cooling system further includes a spout extending exteriorly of the enclosure and a coolant passage connecting the spout and the coolant tank.

34. (Previously Presented) A welding-type power source comprising:
an enclosure;
a power supply circuit disposed in the enclosure and configured to receive a raw power input and provide a power output usable by a welding-type process; and
a cooling system disposed in the enclosure and configured to circulate coolant to regulate a temperature in at least the enclosure.

35. (Previously Presented) The welding-type power source of claim 34 further comprising an outlet configured to receive a hose of a welding-type component.

36. (Previously Presented) The welding-type power source of claim 35 wherein the cooling system is further configured to circulate coolant to the welding-type component via the hose.

37. (Previously Presented) The welding-type power source of claim 36 further comprising a check valve configured to prevent outflow of coolant through the outlet when the hose is disconnected from the outlet.

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38. (Previously Presented) The welding-type power source of claim 34 further comprising a controller configured to regulate the cooling system to automatically at least circulate coolant at start-up of the welding-type process.

39. (Previously Presented) The welding-type power source of claim 38 wherein the controller is further configured to maintain coolant circulation after termination of the welding-type process if a temperature in a welding-type torch connected to the enclosure exceeds a threshold.

40. (Previously Presented) A welding system comprising:
a power source connectable to a coolant-cooled welding torch;
a cooling system disposed in the power source and configured to circulate coolant to at least the welding torch during a welding process; and
at least one check valve integrated with the cooling system and biased to a closed bias position to prevent coolant leakage from the power source when the welding torch is disconnected from the power source and configured to automatically overcome the closed bias position to allow coolant flow to a coolant-cooled welding torch that is connected to the power source when the coolant-cooled welding torch is activated.

41. (Previously Presented) The system of claim 40 further comprising a controller operationally connected to the cooling system such that coolant is automatically circulated upon commencement of welding.

42. (Previously Presented) The system of claim 40 wherein the cooling system further includes:
a coolant tank;
a pump assembly configured to draw coolant from the coolant tank and deliver coolant to the welding torch; and
a heat exchanger configured to lower a temperature of coolant being reclaimed from the welding torch.

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43. (Previously Presented) The system of claim 42 wherein the coolant includes water and further comprising a supply path from the tank to the welding torch and a return path from the welding torch to the tank.